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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,736	02/24/2004	James H. Shaffner	B-4958NP 621373-2	2748
36716	7590	11/02/2005	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			GLENN, KIMBERLY E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,736

Applicant(s)

SHAFFNER ET AL.

Examiner

Kimberly E. Glenn

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

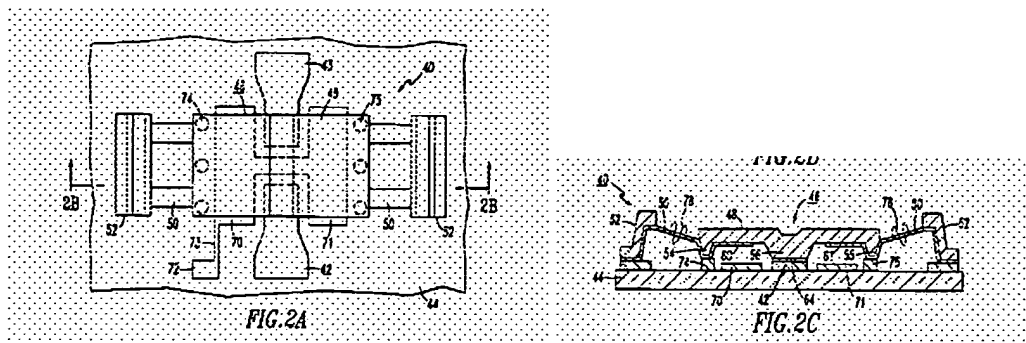
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

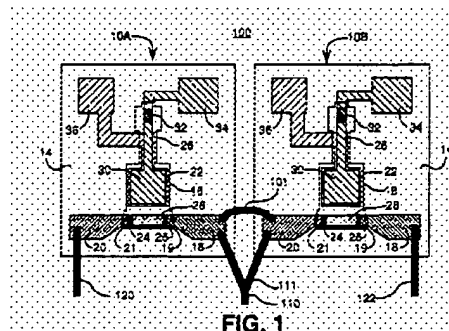
Claims 1, 2, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickens et al US Patent 6,657,525 in view of Loo et al US Patent 6,440,767 (both of record).

The primary reference, Dickens discloses in figures 2A through 2C an improved MEMS switch 40 comprising of first and second RF conductors 42 and 43 deposited on a substrate 44. A bridge structure 46 having a central stiffener portion 48 is located above the RF conductors. The central stiffener portion 48 is vertically moveable by virtue of metallic flexible spring arms 50 connected to respective support members 52. The undersurface of bridge structure 48 includes an electrical contact 64, which completes the electrical connection between first and second RF conductors 42 and 43 when the switch 40 is activated. The RF conductor comprises of a tapered section that extends from a narrow portion of the RF conductor to a wide portion of the RF conductors.



Thus, Dickens et al is shown to teach all the limitation of the claims with the exception of the RF line having only one protuberance or hump.

Loo et al discloses in figure 1, a MEMS switch wherein the RF lines 18 and 20 having only one protuberance or hump. Examiner considers the taper section RF lines 18 and 20 to be the protuberance or hump.

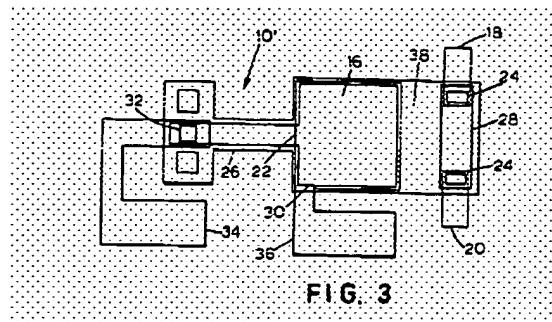


One of ordinary skill in the art would have found to obvious to replace the general RF conductors 42 and 43 of Dickens et al with the RF lines as taught in Loo et al since examiner takes notice of the equivalence of the RF conductors and the RF lines for their use in the switching art and the selection of any of these known equivalents to provide a connection means would be within the level of ordinary skill in the art. The motivation for this modification would have to provide a RF lines that are easily manufactured and which reduces the circuit size of the MEMS, though not explicitly disclose in the reference but would have been obvious to one of ordinary skill in the art.

Claims 1, 7, 9-12 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loo et al US Patent 6,046,659 in view of Loo et al US Patent 6,440,767 (both of record).

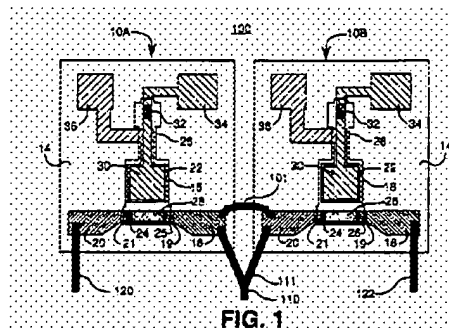
Loo et al '659 discloses in figure 3 a MEM switch 10'. The MEM switch comprises of a conducting transmission line 28, an input line 20, an output line 18, an armature bias electrode 30, an armature bias pad 34, substrate bias pad 36, an armature 16 and a substrate 14. Examiner considers the input line and the output line to be the RF line. With the conducting transmission line represents the RF contact.

The conducting transmission line 28 is located on the underside of the beam structural layer 26 and is not connected directly to either the input line 20 or the output line 18. The armature bias electrode 30 covers the majority of the underside of the armature 16 and the beam structural layer 26. One end of the armature 16 is affixed directly to the substrate 14. The free end of the armature 16 rests over both the input line 20 and the output line 18. The conducting transmission line 28 is located on the free end of the armature 16, also above both the input line 20 and the output line 18. When a voltage is applied between the substrate bias electrode 22 and the armature bias electrode 30, the armature 16 will bend towards the substrate 14. This forces the conducting line 28 into electrical contact with both the input line 20 and the output line 18. Signals can then pass from the input line 20 to the output line 18 through the conducting transmission line 28. A positive or negative voltage is place on either the armature bias pad 34 or substrate bias pad 36 and a ground signal is placed on the other. Therefore, whichever pad receives the ground signal is considered the ground plane.



Thus Loo et al '659 is shown to teach all the limitation of the claims with the exception of the RF line having only one protuberance or hump adjacent to at least one RF contact.

Loo et al '767 discloses in figure 1, a MEMS switch wherein the RF lines 18 and 20 having only one protuberance or hump. Examiner considers the taper section RF lines 18 and 20 to be the protuberance or hump.



One of ordinary skill in the art would have found to obvious to replace the general input/output line 18 and 20 of Loo et al '659 with the RF lines as taught in Loo et al '767 since examiner takes notice of the equivalence of the input/output lines and the RF lines for their use in the switching art and the selection of any of these known equivalents to provide a connection means would be within the level of ordinary skill in the art. The motivation for this modification would have to provide a RF lines that are easily

manufactured and which reduces the circuit size of the MEMS, though not explicitly disclose in the reference but would have been obvious to one of ordinary skill in the art.

Allowable Subject Matter

Claims 3-6, 14-18, 21, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E. Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn
Examiner
Art Unit 2817

keg

A handwritten signature in black ink, appearing to read 'Kimberly E. Glenn', with a long horizontal flourish extending to the right.